

subequal. 40 scales in a longitudinal series, 5 between dorsal fin and lateral line, 3 between lateral line and root of ventral fin. Dorsal III 8; origin nearly equidistant from tip of snout and base of caudal; longest ray nearly as long as the head; free edge of the fin slightly concave. Anal III 5. Caudal deeply forked. Pectoral as long as the head, not reaching the ventrals, which originate below the middle of the dorsal and extend to the origin of anal. No well-defined spots or markings.

A single specimen, 53 mm. in total length, from the lake at Yunnan Fu.

*Silurus Grahami.*

Depth of body 6 in the length, length of head 5. Breadth of head  $1\frac{2}{3}$  in its length, diameter of eye 8, interorbital width  $3\frac{1}{3}$ , length of snout  $3\frac{1}{3}$ . Lower jaw projecting; vomerine teeth in separate patches; 4 barbels, the maxillary ones reaching the ends of the pectorals, the mental ones  $\frac{2}{3}$  as long. Dorsal 4, its distance from tip of snout slightly more than  $\frac{1}{2}$  its distance from the caudal. Anal 73, continuous with the caudal, which is subtruncate. Pectoral with I 13 rays; spine with the outer edge weakly denticulated and the inner edge entire, its length  $\frac{3}{4}$  that of the fin, which is  $\frac{3}{4}$  as long as the head and does not reach the ventral. Ventrals 12-rayed, extending to the third or fourth ray of anal. Greyish brown.

A single specimen, 260 mm. in total length, from the Chien Kiung Lake, 30 miles S.E. of Yunnan Fu.

This species is very close to *S. mento*, Regn., from Yunnan Fu Lake, which has shorter barbels, the inner edge of the pectoral spine serrated, and the ventrals 10-rayed.

VI.—*Diagnoses of new Central-American Freshwater Fishes of the Families Cyprinodontidæ and Mugilidæ.* By C. TATE REGAN, B.A.

1. *Rivulus flabellicauda.*

D. 9. A. 12. Sc. 42. Diameter of eye 4 in the length of head. End of anal below middle of dorsal. Brownish, edges of scales darker; vertical fins with some small darker spots; a caudal ocellus.

*Hab.* Costa Rica, Juan Veñas (*Underwood*).

Total length 70 mm.

2. *Rivulus Godmanni*.

D. 8. A. 11. Sc. 35. Diameter of eye 3 in the length of head. End of anal below middle of dorsal. Olivaceous, a darker spot on each scale; operculum blackish; vertical fins dusky, the caudal with a narrow pale edge and below with a blackish intramarginal stripe; caudal ocellus sometimes present.

*Hab.* Guatemala (*Godman*).

Total length 40 mm.

3. *Pœcilia salvatoris*.

*Pœcilia thermalis* (non Steindl.), Günth. Cat. Fish. vi. p. 341 (1866).

D. 10-11. A. 8-9. Sc. 27-30. Closely allied to *P. sphenops*, C. & V., but with the body not so deep, the interorbital space broader, and the free edge of the dorsal fin straight instead of convex. Olivaceous; males with more or less distinct cross-bars; dorsal with 2 series of vertically expanded blackish spots, sometimes absent in females; caudal, in the males, with oblong blackish spots.

*Hab.* San Salvador, in warm springs (*Dow*).

Total length 55 mm.

4. *Xiphophorus strigatus*.

*Xiphophorus Helleri* (non Heck.), Meek, Zool. Pub. Columbian Mus. v. 1904, p. 157.

D. 12-14. A. 9-10. Sc. 28-30. A blackish lateral stripe from eye to base of caudal; no additional stripe in the males.

*Hab.* Southern Mexico, Vera Cruz and Oaxaca.

The true *X. Helleri* is the species named *X. jalapæ* by Meek, males of which have two lateral stripes.

5. *Xiphophorus brevis*.

D. 13-15. A. 9-10. Sc. 27. Depth of body  $2\frac{1}{2}$  to  $2\frac{3}{8}$  in the length. 3 or 4 indistinct dark longitudinal stripes at the edges of the series of scales on the sides of the body.

*Hab.* British Honduras, Stann Creek (*Robertson*).

Total length 75 mm.

6. *Agonostomus macracanthus*.

D. IV, I 8. A. II 10. Sc. 41-43. Upper lip very thick, as in *A. nasutus*. Maxillary extending to below middle of eye. Dorsal spines strong, the first  $\frac{1}{2}$ - $\frac{3}{5}$  the length of head or

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$\frac{2}{3}$ – $\frac{3}{4}$  the distance between the origins of the dorsal fins and as long as the longest rays of the second dorsal. Pectoral  $\frac{2}{3}$  the length of head, extending to or a little beyond the vertical from the origin of spinous dorsal.

*Hab.* Guatemala, Rio Guacalate (*Salvin*).

Total length 210 mm.

#### 7. *Agonostomus Salvini*.

D. IV, I 8. A. II 10. Sc. 38–40. Closely allied to *A. nasutus*, but upper lip not so thick, eye smaller, lower jaw a little longer, pectoral fin shorter. Maxillary extending to below anterior  $\frac{1}{4}$  or  $\frac{1}{3}$  of eye. Dorsal spines moderate, the first  $\frac{2}{3}$  (adult) or  $\frac{1}{2}$  (young) the length of head or of the distance between the origins of the dorsals. Pectoral  $\frac{2}{3}$  the length of head or less, not extending to below the spinous dorsal.

*Hab.* Guatemala, Rio Nacasil (*Salvin*).

Total length 270 mm.

### VII.—*A Contribution towards a Knowledge of the Entozoa of British Marine Fishes.*—Part I. By WILLIAM NICOLL, M.A., B.Sc., Gatty Marine Laboratory, St. Andrews.

[Plates I.–IV.]

THE following account of an as yet little-known province of British marine zoology can hardly be regarded as more than a mere preliminary. The original intention was to have treated the subject in a systematic manner, dealing with the Entozoa of each of the natural groups of fishes—Gadidæ, Pleuronectidæ, &c.—separately; but as this was found impossible for the time being, the most satisfactory remaining course seemed to be to study the easily accessible fishes as they came to hand. It will be seen that these fall under two classes: (1) the commoner littoral fishes, gunnel, stickleback, &c.; (2) the commoner food-fishes, haddock, dab, &c. A large number of each species, except in a few instances, having been examined, the results obtained may be regarded as fairly accurate and the parasites from each host as comparatively typical. Special attention has been devoted to the Trematode forms; cestodes occurred but rarely, except in the form of scolices. Nematodes and Acanthocephala were frequent, but, for the most part, assignable to common species. Several forms remain unnamed, mostly young Ascarids, which are difficult to diagnose.